

# Environment and Sustainability in Horticulture in Zambia

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## Environment & sustainability issues of concern

- National Policy on Environment document identifies:
  - Deforestation (250-300 thousand ha/year)
  - Land degradation
  - Wildlife depletion
  - Soil erosion
  - Loss of productivity
  - Inadequate sanitation
  - Air and water pollution

## Issues related to climate change

- Mean annual temperatures have increased by 1.3°C since 1960
  - 0.6°C/decade and 10 times higher than global rate or that of Southern Africa
  - This constrains crop yields
- Mean annual rainfall has decreased by 1.9 mm per month (2.3%) per decade
  - Large decrease in the December-January-February rainfall (7.1mm/month/decade)

## Issues cont'd

- General trends are towards:
  - Higher average temperature, and
  - Possible decrease in total rainfall
  - But data on emergency events suggest a drastic increase in flood events
- All in all, this climatic variability has impacts through:
  - Low frequency high impact extreme weather events (droughts & floods)
  - High frequency low impact events (erratic rainfall, warmer days & nights, emergence of pests)

# Issues in horticulture

- No data on environment and sustainability issues specific to horticulture sector
- Issues captured as they relate to agricultural sector as a whole:
  - Land degradation
  - Contamination of surface and underground water with fertilizers and chemicals
  - Horticultural marketing putting greater challenges on city authorities to clear large heaps of discarded produce in and around markets

## Issues in horticulture cont'd

- Impacts/consequences of climate change
  - Reduced water availability
  - Increased irrigation cost as more water needed to apply due to increase in temperatures
  - Reducing produce quality due to increasing temperatures
  - Increase in pests/diseases even in the cool dry season because temperatures have increased
  - Missing a whole cropping season due to late start of rains
    - ✓ e.g. rain-fed rape has to be harvested by January to escape pest/disease pressure; planting by December

## Institutional arrangements for Addressing issues

- No arrangement specific to horticulture sector
- Environmental issues a mandate of Government ministry (MTENR), under which is the ECZ (statutory body to protect environment & control pollution)
- As a signatory to UNFCCC Zambia:
  - Participates in UNFCCC processes
  - Has developed and submitted the National Adaptation Plan of Action (NAPA) - (2007)
- MTENR has established the Climate Change Facilitating Unit (CCFU) for coordinating climate change issues in the country

## Management of climate change impacts on horticulture

- Adaptation measures at production levels:
  - Relocating to higher grounds
  - Planting early, drought resistant varieties/crops
  - Using drip irrigation
  - Water harvesting
  - Mulching & organic manure
  - Minimum tillage
  - other conservation agriculture techniques

# Management of impacts cont'd

- No specific responses specific to horticultural production & marketing
- CCFU is developing a National Climate Change Response Strategy (NCCRS)
  - Building on existing national and regional priorities
  - So far reactions have been ad hoc and uncoordinated and achievements limited
- Other donor supported activities related to addressing climate change issues also going on (see position paper)

## Regional coordination

- Zambia a part of the 12<sup>th</sup> session of the African Ministerial Conference on Environment (AMCEN)
  - Need to integrate Africa's existing and new climate change programmes under a consolidated framework
- A member of a number of adaption, mitigation & supporting measures regional programmes
  - The majority are SADC based
  - COMESA Climate Change Initiative
  - Africa Bio-Carbon Fund (part of Africa Bio-Carbon Initiative)

Thank you